Evaluating the Raven RQ-11A small Unmanned Aircraft System for Monitoring Breeding Greater Sage-Grouse in Grand County, Colorado

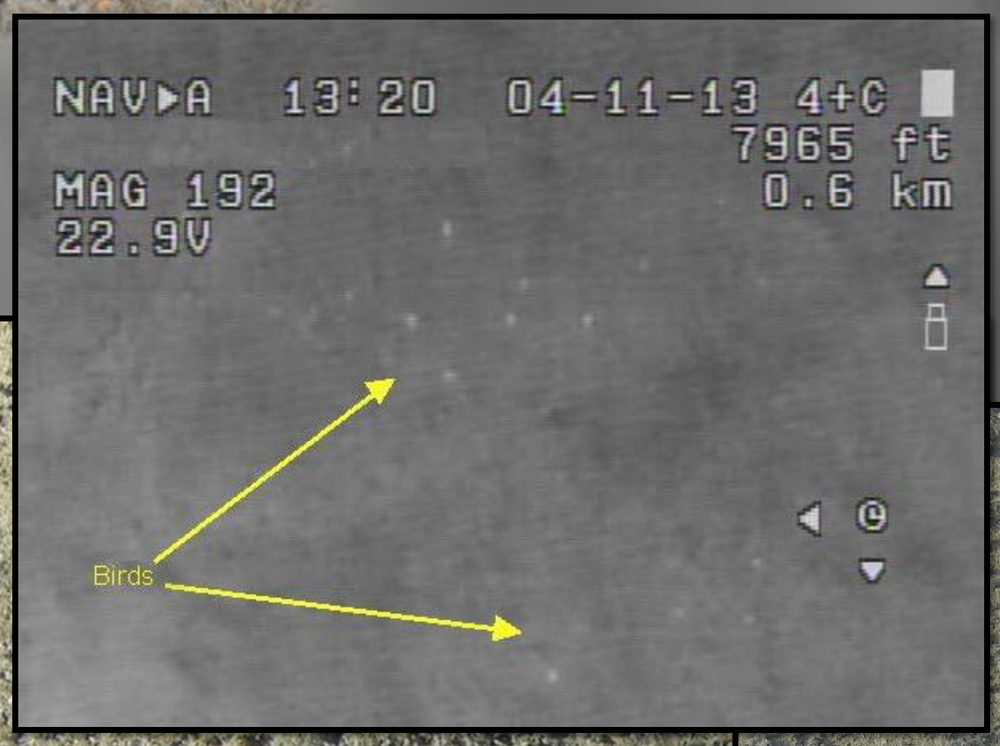
April 10-13, 2013

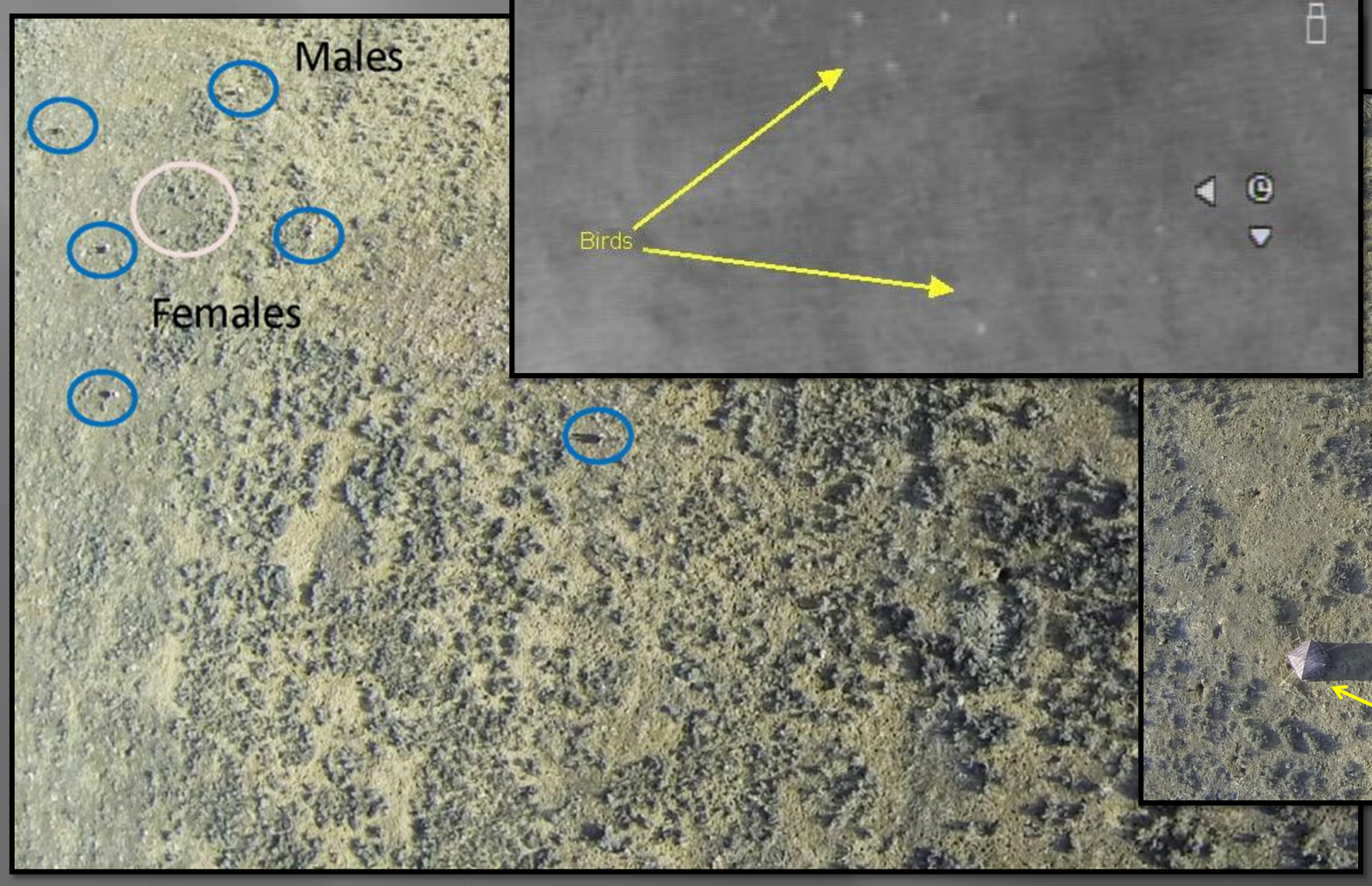
The Department of the Interior – U.S. Geological Survey
Raven RQ-11A Unmanned Aircraft System

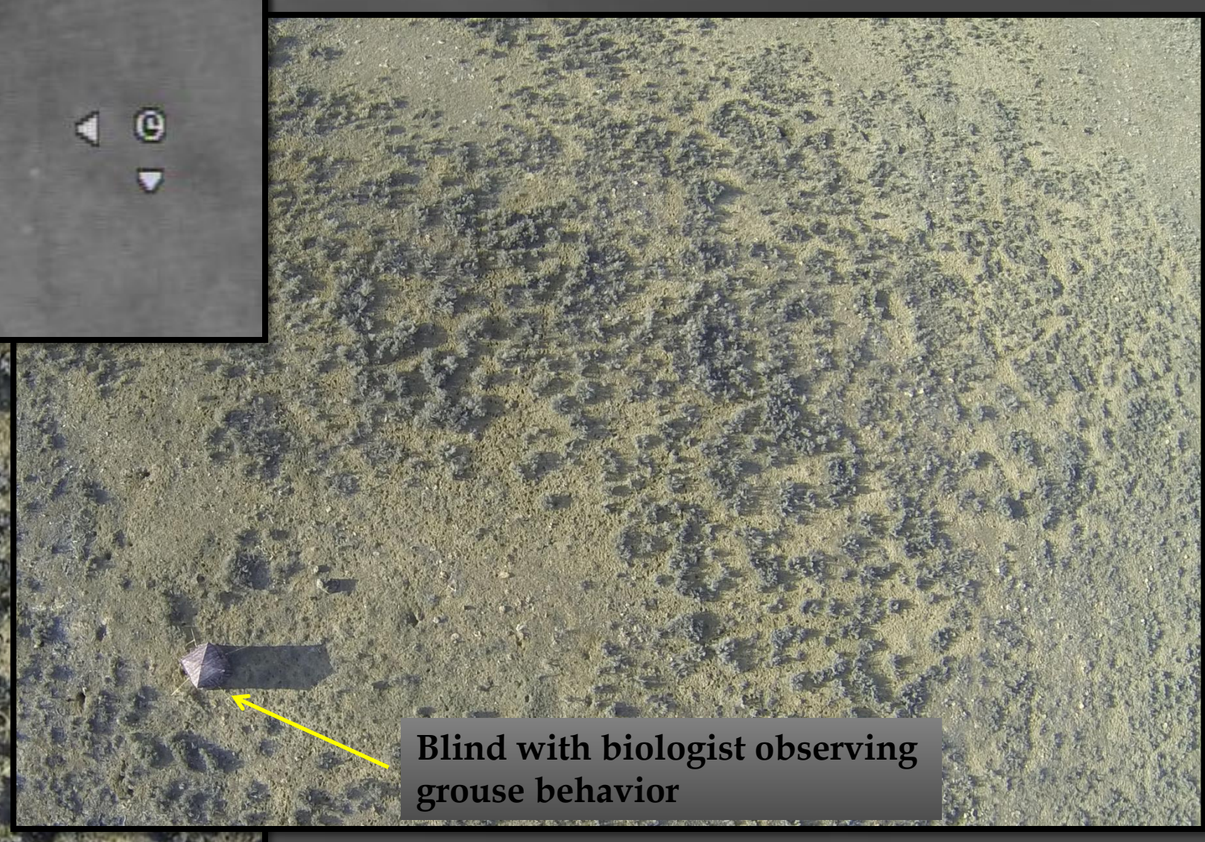
This proof of concept study assessed the ability of the RQ-11A Raven small Unmanned Aircraft System (sUAS) to detect greater sage-grouse utilizing leks (breeding areas) and investigate the following questions:

1. How will greater sage-grouse respond to sUAS flights?
2. Which sUAS camera (visible wavelength or thermal infrared) best detects greater sage-grouse?
3. Do the sUAS cameras detect greater sage-grouse at flight altitudes that do not disturb the birds?
4. Can the sUAS cameras detect greater sage-grouse obscured by sagebrush?
5. Can the sUAS cameras distinguish greater sage-grouse males from females?

The electric 4.2 lb. Raven RQ-11A is hand launched with a natural color or thermal infrared camera payload







The U.S. Geological Survey-Fort Collins Science Center, Colorado Parks and Wildlife, and Bureau of Land Management view sUAS as an emerging technology which may result in safer and improved methods to conduct wildlife surveys. Currently, Greater sage-grouse behavior around sUAS' is unknown. This projects objective was to determine if the Raven sUAS is a suitable platform for detecting and counting Greater sage-grouse on lek sites.
For more information: http://uas.usgs.gov and http://www.fort.usgs.gov/RavenA/